

# News and views

## Science and Foreign Relations

### European Researchers to Study in U. S.

One hundred and fifty young research scientists from countries participating in the Organization for European Economic Cooperation will be brought to the United States, each for a period of two years, under a program announced during the summer by the National Academy of Sciences and the Foreign Operations Administration. Designed to contribute to closer scientific relations between this country and the OEEC nations in Europe, the program will enable specialists in the physical sciences from abroad to carry on basic research in American universities or private laboratories and subsequently to explore the "practical applications of basic research" in industrial laboratories where they will work on problems in applied research.

Participants will not be able to choose their own problems but will be assigned to specific laboratories to work on established research projects. The candidate must have a PhD or its equivalent, must be able to speak English, must receive a security clearance, and must agree to return to his country upon completion of his assignment. Each scientist will receive transportation and an allowance of nine dollars per day for the two-year period, and arrangements have been made to enable each visitor to attend at least one scientific meeting each year that he is in the United States.

Candidates will be selected in this country by the National Academy of Sciences-National Research Council on the recommendation of the corresponding organizations in the several European countries. The following fields will be represented: agriculture, anthropology, astronomy, biochemistry, biophysics, botany, chemistry, engineering, forestry, geography, geology, geophysics, mathematics, paleontology, physical geography, physics, psychology, and zoology.

## Scientific Translations

### NSF-AEC Center at Library of Congress

As was mentioned last month in these pages, a Scientific Translations Center recently established in the Library of Congress will collect, catalog, announce, and make available for purchase foreign scientific translations from a large number of cooperating government agencies and laboratories, industrial laboratories, and scientific societies. Initially it will concentrate on translations of articles from Russian scientific journals with the possibility of eventually expanding the service to

include enough languages to provide reasonably comprehensive coverage of the world's non-English scientific literature. The Center was established by the National Science Foundation in collaboration with the U. S. Atomic Energy Commission.

The program will be two-fold and will include, on the one hand, a vigorous effort to build up an extensive collection of translations of Russian scientific literature and, on the other, an earnest endeavor to make these translations known and available to as large a segment of U. S. scientists as possible. With regard to the former, the management of the Center urges all organizations engaged in translating Russian scientific material to cooperate by submitting copies of articles translated. The potential worth of the service obviously will be limited by the extensiveness of the collection upon which it is based. Only one clear copy of each translation need be sent in and this can either be used for retention or on loan for just long enough to permit microfilming.

With respect to the availability of the translations collected by the Center, it is planned to publish monthly lists of those received along with information on how copies can be obtained. Items in the list will be arranged by broad subject categories and it is hoped, in the interests of the widest possible dissemination of the information, that journals in the various scientific disciplines will reprint the sections pertinent to their interests. The first list of translations is scheduled for publication late in October; distribution of these will be gratis for at least three months and probably on a subscription basis thereafter.

The prices which have been established for the translations listed are as follows: 1. Full-sized photoreproductions: 1-10 pages, \$1.25; 11-15 pages, \$1.75; 2. Microfilms: 1-50 pages, \$1.00. The monthly listings also will include notices of translations available by direct purchase from commercial and other translating services; the Center will not supply photocopies of this material.

Inquiries regarding the service should be addressed to Scientific Translations Center, Science Division, Library of Congress, Washington 25, D. C.

## The Astin Case

### NBS Director Reinstated

On August 21st, one hundred and forty-four stormy days after the forced resignation of Allen V. Astin as director of the National Bureau of Standards (see *Physics Today*, VI, 5, 20, May 1953), Secretary of Commerce Sinclair Weeks issued the following press release:

"I have asked Dr. Allen V. Astin to continue as Director of the National Bureau of Standards and he has agreed to do so. I am taking this action because I am convinced that it is in the best interests of the Bureau and the public.

"Since this step is contrary to my previous views, I shall set forth the reasons for the change.

"In the early days of this Administration my own studies and information presented to me from outstanding scientists, public officials and others convinced me that certain broad improvements were required in the policies and operations of the Bureau to permit it to better carry out its services to the public. Among the problems that confronted me as Secretary were: 1. Serious lack of balance in the programs of the Bureau. 2. Imperfections in the system of evaluating commercial products. 3. Inadequacies of organization and administrative control.

"In order to review these matters thoroughly, I established in April an Evaluation Committee composed of leading scientists both from industry and the academic world, under the Chairmanship of Dr. M. J. Kelly, President of the Bell Telephone Laboratories. The members of this committee, with the aid of several specialist consultants of their own choosing, have made a most complete and searching evaluation of the functions and operations of the Bureau in relation to national needs. They have completed the examination and study phases of their task. Their report is in the final drafting stage and will be released to the public in September. I have followed their work on an almost day-to-day basis and at their request have studied a preliminary draft of their report.

"This report confirms my previous belief that the programs of the Bureau were badly out of balance. The military work of the Bureau had been permitted by the previous Administration to grow to such large size as to seriously weaken the basic civilian program for which the Bureau was established and which is of supreme importance to our highly industrialized society.

"During the years 1950-53 while the military work expanded more than 400 percent in volume, the basic civilian work actually decreased some 25 percent. In fiscal 1953 the basic work accounted for less than a quarter of the total effort expended by the Bureau. If this trend were not reversed, the basic work, which is primarily for the civilian economy, would soon have become wholly ineffective.

"As my first step in the correction of this situation, I initiated action with the Department of Defense for the transfer of two large weapons projects from the Bureau to the Department of Defense where they properly belong. This transfer, which will be complete in September, will remove a large fraction of the weapons development program from the Bureau. The Evaluating Committee and the Secretary's Visiting Committee are unanimous in their view that this transfer will not adversely affect the weapons development program and that it is an essential measure in the building of the Bureau's strength in balance for its authorized functions.

"As an aid to the Director in taking advantage of new developments in science and technology in planning new programs, the Kelly Committee also will recommend that small committees, composed of outstanding scientists, be appointed to serve as advisors to the Director in the several specialized fields covered by the Bureau. By this means the strength within the membership of the country's great technical and scientific societies will be made available directly to the Bureau.

"The transfer of the major weapons programs to the Defense Department and the establishment of these

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## The Dynamics and Thermodynamics of Compressible Fluid Flow

ASCHER H. SHAPIRO, *Massachusetts Institute of Technology*

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## Astrophysics—The Atmospheres of the Sun and Stars

LAWRENCE H. ALLER, *University of Michigan*

COVERING both fundamentals and major developments in the field of stellar atmospheres, this pioneering book reviews the physical principles relevant to astrophysics and applies these principles to radiation of the sun and stars, their continuous dark-line spectra, solar phenomena, and solar-terrestrial relationships. "It is hard to overemphasize the importance of this book, presenting as it does the subject of stellar atmospheres as it is known and accepted today."—*Publications of the Astronomical Society of the Pacific*. 412 pp., 117 ills., 44 tables. \$12

## The Anatomy of Mathematics

R. B. KERSHNER, *Johns Hopkins University*; L. R. WILCOX, *Illinois Institute of Technology*

BRIDGING the gap between classical and modern approaches, this stimulating volume introduces the ideas and techniques of abstract mathematics today. A treatise on the axiomatic method, it fully covers and proves propositions generally taken for granted—such as those pertaining to positive integers, extended operations, inductive definition, etc. "It is a pleasure to recommend this book . . . those who dig deeply will be well rewarded."—*Scripta Mathematica*. 416 pp. \$6

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special advisory committees together represent a long stride toward solving the problems of proper balance within the programs of the Bureau.

"In recent public discussion of the Bureau much attention has been given to the matter of battery additives. Unfortunately this has obscured the real problem, which is the Bureau's established policies and procedures with respect to the evaluation of commercial products in general. While the Kelly Committee did not concern itself with the technical phases of the battery additive case, it did study the procedural and policy questions which it raised.

"The report of the Kelly Committee will recommend that all nontechnical policy and procedural matters on commercial product evaluation at the Bureau be made the responsibility of the Secretary of Commerce and that the Director's responsibility be limited to the technical area. I agree with this recommendation and shall implement it.

"The third major problem with which I was concerned involved the administration of the internal affairs of the Bureau. The Kelly Committee found that the administrative set-up of the Bureau, in which 14 of the 17 technical divisions report directly to the Director, so over-burdened him with internal management problems that he is unable to give adequate attention to his broader responsibilities. The Committee has recommended a sound administrative pattern that will relieve the Director of detailed supervision and make his time available for the essential professional functions of the office.

"In order to implement the Committee's recommendations in the administrative area, I am for this purpose placing the Bureau under the immediate supervision of the Assistant Secretary of Commerce for Administration, Mr. James C. Worthy. Mr. Worthy has had extensive administrative experience both in private business and in government and in the last several months has been closely associated with Dr. Astin in dealing with administrative affairs of the Bureau, particularly with reference to the transfer to the Department of Defense of the activities noted above.

"All these changes which are being made are positive improvements in the Bureau. They correct conditions which in many cases considerably antedate Dr. Astin's period as Director and for which he cannot be held responsible.

"It is a basic principle of American government that an Administration, held accountable by the people for governing, has the right to appointive officials of its own choice, who act as a team in determining policies and in advancing programs of the Administration. Past and current actions of mine are based on this principle, including this particular decision to request Dr. Astin to continue as Director.

"My own observations and the report of the Kelly Committee have convinced me that there is a major task ahead in placing the Bureau in a position to discharge in balance the obligations of its authorized functions and that this task can be best and most rapidly accomplished by the action I now take.

"No further need exists to seek a successor, as Dr. Astin has expressed his willingness and desire to continue as a key official of this administration and as such he is from here on a member of my team.

"This decision has been discussed with the Secre-

tary's Visiting Committee, which I had asked to provide me, by early September, with a limited list of suitable candidates for the Directorship of the Bureau. Its members are in unanimous agreement with the action I am taking today.

"I am confident that both Dr. Astin and I will have the hearty support of the personnel of the Bureau, whose devotion to the public service is recognized by me and by all acquainted with their work and spirit.

"The report of the Kelly Committee will say: 'By the very nature of its functions the Bureau's work must not be reasonably good, it must be superior; and because of the contributions to national strength that it can make in our highly industrialized society, they must not be available as now to only limited sectors of science and technology, they must be available throughout all science and technology. A superior Bureau that contributes in balance to all areas of our industrial nation can only be realized by better organization and increased financial support.'

"I sincerely endorse these objectives and will do my utmost to attain them."

## ONR Goes Pogo

### Summer Cosmic-Ray Expeditions

The designations by the Office of Naval Research of its summer arctic expedition as "Project Mushrat" and its equatorial expedition later on, as "Project Churchy" evolved, one is told, from the use of balloon-launched Deacon rockets on the former expedition and from the prevalence of turtles on the Galapagos Islands, the site of the latter work. The purpose of both projects was to make comprehensive series of high altitude observations of the primary cosmic radiation, and the pressure, temperature and density of the atmosphere near the geomagnetic north pole and the equator.

The Deacon rockets, which are small and relatively inexpensive, were able to attain great altitudes by being launched from Skyhook balloons at altitudes of more than 77 000 feet. This scheme was developed by James A. Van Allen of the State University of Iowa for cosmic-ray research and was also employed last year. The Project Churchy group includes personnel from the Bartol Research Foundation, General Mills, New York University, the Naval Research Laboratory, and the Universities of Minnesota, Washington, and Chicago. Nuclear emulsions were to be flown for a number of other institutions as well on a hitch-hike basis, attached to the instruments of one of the participating groups.

## Miscellany

A standard system of notation for unstable particles was proposed in July at a cosmic ray conference held under the sponsorship of the International Union of Pure and Applied Physics at Bagnères de Bigorre, France. Under the new system the notation would be: *L*-mesons (symbol *L*) for pi- and mu-mesons and any other possible lighter mesons; *K*-mesons (symbol *K*) for particles with masses between pi-mesons and pro-